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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/027,171	12/21/2001	John Gilbert	CVZ-002	9744
959	7590	02/18/2005	EXAMINER	
LAHIVE & COCKFIELD, LLP. 28 STATE STREET BOSTON, MA 02109			GORDON, BRIAN R	
			ART UNIT	PAPER NUMBER
			1743	

DATE MAILED: 02/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

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<b>Office Action Summary</b>	<b>Application No.</b> 10/027,171	<b>Applicant(s)</b> GILBERT ET AL.	
	<b>Examiner</b> Brian R. Gordon	<b>Art Unit</b> 1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12-14-04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-4, 6, 7 and 65-108 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-4, 6, 7, 65-98 is/are allowed.
- 6) ☒ Claim(s) 99-102 and 105-108 is/are rejected.
- 7) ☒ Claim(s) 103-108 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |                                                                                                                        |                                                                                         |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                            | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 99-108 have been considered but are moot in view of the new ground(s) of rejection.
2. In view of applicant's amendment, the rejection of claim 1 (and claims dependent thereupon) has been withdrawn.

***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:  
  
The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 101 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 101 refers to "a second actuator" without first claiming a first actuator.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 99-102, 105-108 are rejected under 35 U.S.C. 102(b) as being anticipated by Fitch et al., 5,722,989.

Fitch et al. disclose a microfabricated, micro-mechanical system for medical procedures. The invention is an electromechanical grip/release micromechanism also

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referred to as a microgripper or microclamper. The electromechanical microstructures, including microgrippers, can be fabricated using known IC silicon-based techniques or precision micromachining, or a combination of these techniques. As shown in FIGS. 3A and 3B, the microgripper, generally indicated at 30 is composed of a pair of grip arms or gripping members 31 and 32 formed, for example, from silicon wafers, and each included a reduced thickness of cross-section area 33 and 34 and a pair of inwardly directed spaced grippers 35 and 36 only one gripper of each pair being shown, which retain a material or part 37, such as a stem of a platinum cell (See FIG. 3A) (column 5, lines 8-55; column 6, line 59 – column 7 line 30; column 8, line 25 – column 9, line 35).

As shown in FIGS. 3A and 3B, the microgripper, generally indicated at 30 is composed of a pair of grip arms or gripping members 31 and 32 formed, for example, from silicon wafers, and each included a reduced thickness of cross-section area 33 and 34 (relaxation regions) and a pair of inwardly directed spaced grippers (first and second pins) 35 and 36 only one gripper of each pair being shown, which retain a material or part 37, such as a stem of a platinum cell (See FIG. 3A). Thin films 38 and 39 are secured to gripping members 31 and 32 adjacent the reduced areas 33 and 34, with films 38 and 39 being constructed of SMA or polyimide layers. The gripping members 31 and 32 are also provided with pusher pads 40 and 41. Upon heating of the thin films 38 and 39 (first and second actuators) by a heater (driver), not shown, the films expand causing outward flexing or bending of the outer ends of gripping members 31 and 32 at areas 33 and 34 causing the grippers 35 and 36 to separate (See FIG. 3B) whereby material 37 is removed therefrom.

In the embodiment of Figures 1A and 1B the balloon 20 serves as the actuator for varying the separation distance of the pins/grippers 17 and 18 as the move in reference to a bending/pivot point on the end opposite the pins.

In order to evaluate the gripping force induced by the Ni--Ti--Cu SMA film (coating to enhance control), an equivalent model with an opening force at the tip was assumed. By applying bimetallic stress equations, the relation between the Ni--Ti--Cu film stress and the deflection (sensor for detecting separation distance) of the gripper tip was calculated (column 10, lines 41-45; column 11, lines 49-56).

***Allowable Subject Matter***

7. Claims 1-4, 6-7, 65-98 allowed.
8. Claims 103-104 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.
9. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or fairly suggest a device comprising a sensor for measuring physical properties of liquid sample held between the first and second tips.

***Conclusion***


10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action:

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is 571-272-1258. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Jill Warden  
Supervisory Patent Examiner  
Technology Center 1700

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